



OUR REF: 1161.P001US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Sam Fong Yau Li

Examiner: SUNG, C

Serial No.: 09/744,626

Group: 2878

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For: OPTICAL DETECTION SYSTEM

RECEIVED  
APR 23 2003  
TECHNOLOGY CENTER 2800

AMENDMENT AND RESPONSE

Box Non-Fee Amendment  
Assistant Commissioner for Patents  
Washington, D.C. 20231

Dear Sir/Madam:

Responsive to the Office Action mailed 01/15/2003, please amend the above-identified application, as follows:

IN THE SPECIFICATION

Please replace the paragraph bridging page 11 and 12 with the following paragraph:

a1  
FIG. 1 is a general schematic illustration of the multichannel epifluorescent detection system using a moving pinhole. The system includes a radiation source 10, an interference filter 11, a dichroic beamsplitter 12, a convergent cylindrical rectangular lens 13, a long pass filter 14 and a photon detector 16. The source irradiates excitation light 19 to the dichroic beamsplitter 12 which is positioned at an angle (which is 45° in this example) to the beam. This beamsplitter reflects radiation of wavelengths below the specified wavelength, acting as a long pass filter. The reflected radiation is then directed axially to the sample channels 20. An interference filter 11 is preferably included in this embodiment to isolate the wavelength necessary for excitation of the fluorescent sample and at the same time eliminate the background scatter caused by the radiation of undesired wavelengths. The interference filter 11 is particularly essential to isolate the necessary excitation wavelength when the light source employed is not monochromatic, such as Hg, Xe, or tungsten lamps. The convergent cylindrical rectangular lens 13 focuses the excitation radiation into a beam of focused light with an elongated cross-section throughout its length, e.g., a line. The axis of the convergent cylindrical rectangular lens 13 is placed perpendicular to the microchannels 20 or, perpendicular to the array of samples to be determined. A simple pinhole 17 with an aperture matching the size of the area to be detected allows the excitation beam to reach